



13A

Christine Todd Whitman
Governor

State of New Jersey
Department of Environmental Protection

Robert C. Shinn, Jr.
Commissioner

MEMORANDUM

SEP 20 1999

September 14, 1999

TO: **Gary Lipsius**, Case Manager,
Bureau of State Case Management

FROM: **Andrew C. Marinucci**, Ph.D., Technical Coordinator,
Bureau of Environmental Evaluation and Risk Assessment

RE: **Witco Chemical Company**, Perth Amboy Site
Review of *Remedial Action Report*. Addendum

AM 9/14/99

Background Information and Site Description

Witco Chemical Corporation is located at 1100 Convery Blvd. in the City of Perth Amboy in Middlesex County. Witco is an active chemical manufacturing facility. At present only its Organic Division operates at the Perth Amboy site. Prior to the 1970's, asphalt was also produced at the site. In 1980, surcharges from the Perth Amboy Sewer were found to contain PCBs. After investigation, it was found that the a major source of this contamination was Witco Chemical. In particular, leaky heat exchangers, which contained PCBs (Aroclor 1248), were the main source of the PCB contamination.

In 1982, soils surrounding the heat exchangers were sampled and removed after extensive PCB contamination was discovered. The excavation was then lined and covered. PCBs were also found in a demolition rubble pile, in an excavation of a former burial site of two large vanadium pentoxide catalytic reactors, in drums from a burial site of waste polyester stearates and surfactants, and soils surrounding a recently removed underground solvent storage tank.

The State of New Jersey filed suit against Witco in 1983 for cleanup of the on-site and off-site (Perth Amboy Sewer system, Spa Spring and Cranes Creek, sewer system surcharge) contamination. Witco responded to this by entering into a Stipulation of Settlement with the State. In this agreement, cleanup levels for PCBs are defined (1-5 ppm depending on the exposure scenario). This settlement places the responsibility on Witco for the investigation and cleanup of its site, the Perth Amboy Sewer site, and other off-site locations. Oversight of the investigation and clean up plan for the Witco site was under the authority of the Witco Committee, and is comprised of three NJDEP representatives and two Witco representatives. A Remedial Investigation/Feasibility Study (RI/FS) showed the approximate extent and nature of PCB contamination as well as other minor contamination at the site. Cleanup goals were established by the Witco Committee and oversight was transferred to the Bureau of State Case Management.

New Jersey is an Equal Opportunity Employer
Recycled Paper

Review:

Foster Wheeler Environmental Corporation (Wheeler) submitted a report of remedial and regulatory activities at the Witco Perth Amboy, NJ Facility. These activities were performed as required by the Amendments to the Stipulation of Settlement. Included are 5 areas of activity: 1) remediation of heater pad area, 2) ground water modeling and natural attenuation evaluation, 3) Classification Exemption Area designation, 4) draft Deed Notice, and 5) request for "no further action." Each of these topics will be evaluated separately.

A. Remediation of heater pad area.

This area was partially remediated prior to 1990 as part of the focused feasibility study. While the soils around heat exchangers were excavated, the units were still in operation so the pads could not be removed to excavate the underlying soil. Witco had the pads removed in this phase of the project. The after soil removal and disposal, the excavation was sampled, covered with membrane and fill, equipped with a water collection system back-filled with clean material and sealed with a concrete pad to complete the project.

This procedure is an effective mitigation for the PCBs found in this area of concern.

Table 0. Summary of PCB data (ppm) collected after excavation of Heater pad soils. The mean is shown at the bottom of the column,

| Pad 2 | Pad 3&4 | Pad 5 |
|--------|---------|-------|
| 72 | 1.9 | 0.56 |
| 740 | 80 | 29 |
| 7.1 | 0.25 | 3.2 |
| 200 | 0.088 | 1.3 |
| 900 | 2900 | 3.6 |
| 130 | 0.8 | |
| | | |
| 341.52 | 497.17 | 7.53 |

The post-excavation samples that were collected nearly all contained PCB (Table 1). The data was given a cursory review and found to be in order. PCB contamination exceeds the target of 50 ppm that was specified in the "Second Stipulation of Settlement, 1/12/93." This was anticipated and the PCB contamination that cannot be remediated because of engineering concerns to nearby structures will be identified in a Deed Restriction. Therefore, the mitigation of the heater pads is acceptable.

B. Ground water modeling and natural attenuation evaluation.

Wheeler has investigated natural attenuation processes at the site. Two types of contaminants are impacting ground water, BTEX and chlorinated solvents (TCE). On reviewing their presentation, it is obvious that microbial oxidation or dechlorination is effective in controlling contamination at all wells except MW-11S. The contamination at this well is primarily BTEX. Dissolved oxygen levels are relatively low, and though there are decreases in the BTEX level, un-amended microbial activity will probably not control the BTEX levels in the area around MW-11S. Wheeler should consider amending the oxygen in the area around this well to enhance the biodegradation of the BTEX. In the remaining wells discussed in this section, natural attenuation through biodegradation is occurring at a level that should control and reduce the contamination at the site. The data from the remaining wells are consistent with microbial natural attenuation and the proposed monitored natural attenuation is appropriate for these wells. Additional wells

are to be included in the monitoring scheme. The inclusion and location of these wells should be approved by the NJDEP geologist.

C. Classification Exemption Area designation.

Please refer to the geologist for comments on this proposal.

D. Draft Deed Notice.

The delineation information included in the RAR is sufficient to issue a Deed Notice. → ✓

E. Request for "no further action."

A site wide "no further action" request should not be accepted until Witco proposes enhancements to the natural biodegradation of the BTEX in the ground water at MW-11S (see B above). The remainder of the site is adequately mitigated and a conditional NFA could be issued for those areas. →

You may contact me at 4-3068 for further clarification.

cc: Brian Sogorka, BEERA
David Kaplan, BGWPAb

File: D:\DATA\WITCO\RAR addendum.doc